trinamiX

Discover a new driving experience
with our health and safety solutions for car interiors

We take the interaction between occupants and vehicle to a new level and contribute to the next generation of automotive sensing solutions. With our Biometric Imaging solutions, enabled by our patented Beam Profile Analysis, we enhance the safety and convenience of driving.

Applications

- ⊘ **Remote vital signs monitoring**
- ⊘ **Optimized airbag deployment**
- ⊘ **Reliable seatbelt detection**
- ⊘ **Secure Face Authentication**

Benefits

Wide Field of View
Monitor driver and passenger simultaneously

Convenient monitoring
Increased driving safety through convenient analysis of health and safety features – remotely and without user interaction

Versatile in use
One hardware invisible integrated to enable different health and safety features

trinamiX Biometric Imaging Solution

Reference Design Automotive RA 10

Software

Applications	Face Authentication, in-cabin sensing, vital signs monitoring, seat belt detection, airbag adjustment
FAR @ FRR	1 : 1,000,000 @ 1 %
Spoof Acceptance Rate (SAR)	0 %
Certification	FIDO BioLevel 2+, Android Biometric "class 3" and IIFAA
3D map	≈ 1 % error

Hardware

Camera module (Rx)	ST 5MP NIR camera (customization optional)
Dot projector (Tx)	~ 4,000 dots, 940 nm VCSEL based, trinamiX proprietary
Flood illumination	940 nm VCSEL based, customer choice

Key Operating Figures

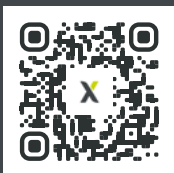| Working range	0.4 m – 1.0 m
Field of View	110 ° x 85 ° (H x V)
Operating temperature	From – 40 °C – 105 °C
Baseline	50 mm

Technology

With a standard hardware setup consisting of a camera, a dot projector and flood illumination, paired with our proprietary algorithms, we derive various information:

- IR 2D image
- 3D depth map
- Material information (such as skin or seatbelt material)

About trinamiX GmbH

trinamiX develops cutting-edge solutions in the field of biometrics and mobile NIR spectroscopy, which are used in both consumer electronics and industrial designs. The company's products enable humans and machines to better capture data, with the goal of understanding the world around us. This results in improved decision-making as well as stronger biometric security.

Find out more
about our solutions for Automotive

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